

Notice of Allowability

Application No.

10/743,173

Applicant(s)

KIM ET AL.

Examiner

Art Unit

Tom V. Sheng

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 12/6/07 & 1/16/07.
2. ☒ The allowed claim(s) is/are 1-66.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given by Attorney Gustavo Siller, Jr. on 4/2/07.

The application has been amended as follows:

Claim 1, line 6 & Claim 17, line 6:

Replace "thereby defining a plurality of left and right side pixel regions" with "wherein a respective data line and a respective pair of gate lines define a left side pixel region with one gate line from the respective pair of gate lines and a right side pixel region with the other gate line, at respective crossing points".

Claim 28, line 9:

After "other pixel region"

insert ", wherein a respective data line and a respective set of adjacent gate lines define a respective left side pixel region with one gate line from the respective set of adjacent gate lines and a respective right side pixel region with another gate line, at respective crossing points".

Claim 47, line 9:

After "adjacent gate lines, "

insert "wherein a respective data line and a respective set of adjacent gate lines

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define a respective left side pixel electrode with one gate line from the respective set of adjacent gate lines and a respective right side pixel electrode with another gate line, at respective crossing points,”.

Claim 66, line 10:

After "other pixel electrode, "

insert " wherein a respective data line and a respective set of adjacent gate lines define a respective left side pixel electrode with one gate line from the respective set of adjacent gate lines and a respective right side pixel electrode with another gate line, at respective crossing points, and “.

2. Claims 1-66 are allowed.

3. The following is an examiner's statement of reasons for allowance:

The invention is directed to a liquid crystal display device, which provides data in a time-divided manner to left and right pixel regions of one data line, thereby reducing the number of source drive ICs, expensive component. The liquid crystal display device includes a plurality of pairs having first and second gate lines being adjacent to each other; a plurality of data lines for being in perpendicular to the pair of the first and second gate lines, thereby defining a plurality of left and right side pixel regions; and left and right side pixel electrodes, respectively formed in the left and right side pixel regions, and selectively driven by switching-parts of the first and second gate lines.

Independent claims 1 and 17 identify the uniquely distinct features “wherein a respective data line and a respective pair of gate lines define a left side pixel region with

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one gate line from the respective pair of gate lines and a right side pixel region with the other gate line, at respective crossing points” and “wherein each of the left and right side pixel electrodes overlaps greater than one gate line.”

Independent claims 28, 47 and 66 identify the uniquely distinct features “wherein a respective data line and a respective set of adjacent gate lines define a respective left side pixel region with one gate line from the respective set of adjacent gate lines and a respective right side pixel region with another gate line, at respective crossing points” and “wherein at least one pixel electrode of adjacent pixel electrodes either overlaps at least two gate lines of one of the sets of adjacent gate lines or overlaps one of the gate lines of a first set of the sets of adjacent gate lines and one of the gate lines of a second set of the sets of adjacent gate lines.”

Hebiguchi et al. (US 6,583,777 B2) teaches a liquid crystal display panel where each data line is split into two data lines Dia and Dib, and the crossing between one of the two data lines and one of the pair of gate lines Gja and Gjb form a respective left or right pixel region/electrode. Moreover, each pixel electrode overlaps one gate line. On the other hand, Hebiguchi does not teach defining the left and right pixel regions/electrodes and further does not teach overlapping more than one gate line of each pixel electrode as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V. Sheng whose telephone number is (571) 272-7684. The examiner can normally be reached on 9:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tom Sheng

AMR A. AWAD
SUPERVISORY PATENT EXAMINER


